

sufficient proximity to one another such that the current or circulation pattern depicted in Fig. 5 is achieved.

### **In the Claims**

Kindly amend Claims 1, 7, 9, 10 and 17 as follows:

1. **(Thrice Amended)** In an aerobic wastewater treatment plant comprising:  
a vessel defining an aeration chamber and having a substantially flat bottom wall and a substantially cylindrical side wall,  
said aeration chamber containing aerobic bacteria into which wastewater containing organic solids flows to be exposed to aerobic bacteria to aerobically digest the organic solids in the wastewater,  
an aeration system in the aeration chamber to support growth of the aerobic bacteria, and  
a clarifier chamber formed in said vessel and into which wastewater from the aeration chamber flows upwardly toward an outlet pipe through which the wastewater flows from the wastewater treatment plant, said clarifier chamber being defined by a partition in the form of an inverted, truncated cone into the bottom of which the wastewater flows from the aeration chamber,  
the improvement wherein said aeration system forms an aeration area adjacent the intersection of the bottom and side wall[s] of the vessel and provides sufficient flow such that all solids suspended within the plant are forced into circulation, said aeration system providing sufficient oxygenation gas to allow the aerobic bacteria to digest the organic solids in the wastewater and a current pattern having at least one first component flowing upwardly in a direction perpendicular to the bottom wall of the vessel and [parallel to] adjacent to the side wall of the vessel, second and third components that flow in opposite directions around the partition which defines the clarifier chamber, a fourth component that flows along the opposite side wall

to the bottom, a fifth component that flows across the bottom under the opening to the clarifier chamber, and sixth and seventh components that flow in opposite directions adjacent the bottom wall of the vessel.

In Claim 4, line 1, change the number "1" to "3".

7. **(Thrice Amended)** In an aerobic wastewater treatment plant comprising:  
a vessel having a substantially flat, bottom wall and a substantially cylindrical side wall and defining an aeration chamber into which the wastewater flows to be exposed to aerobic bacteria to aerobically digest the organic solids in the wastewater, and

a clarifier chamber in which wastewater from the aeration chamber flows upwardly toward an outlet pipe through which the wastewater flows from the wastewater treatment plant, said clarifier chamber being defined by a partition disposed in said vessel, said partition being in the form of an inverted, truncated cone into the bottom of which the wastewater flows from the aeration chamber,

the improvement comprising means for injecting an oxygenation gas and generating a wastewater current pattern in the aeration chamber from an aeration area close to the bottom and the side wall of the vessel, the current pattern having at least one first component flowing upwardly in a direction perpendicular to the bottom wall of the vessel and [parallel to] adjacent the side wall of the vessel, second and third components that flow in opposite directions around the partition which defines the clarifier chamber, a fourth component that flows along the opposite side wall to the bottom, a fifth component that flows across the bottom under the opening to the clarifier chamber, and sixth and seventh components that flow in opposite directions around the side wall of the vessel adjacent the bottom wall of the vessel to keep solids from settling on the bottom of the aeration chamber.

9. **(Thrice Amended)** An aerobic wastewater treatment plant comprising:

an aeration chamber containing aerobic bacteria into which wastewater flows to be exposed to aerobic bacteria to digest the organic solids in the wastewater, said aeration chamber having a substantially flat, bottom wall and a substantially cylindrical side wall.

a clarifier chamber into which wastewater from the aeration chamber flows upwardly toward an outlet pipe through which the wastewater flows from the wastewater treatment plant, said clarifier chamber being defined by a partition in the form of an inverted, truncated cone into the bottom of which the wastewater flows from the aeration chamber, said bottom wall providing a substantially planar surface under said partition.

an aeration system for releasing an oxygenation gas as bubbles into the aeration chamber of the wastewater treatment plant, said aeration system providing an aeration area and sufficient flow such that all solids suspended within the plant are forced into a circulation pattern, said aeration system being placed close to the bottom of the aeration chamber of the wastewater treatment plant and close to the side wall of the aeration chamber, said aeration system providing sufficient oxygenation gas to allow the aerobic bacteria to digest the solids in the wastewater and a current pattern having at least one first component flowing upwardly in a direction perpendicular to the bottom wall of the vessel and [parallel to] adjacent the side wall of the vessel, second and third components that flow in opposite directions around the partition which defines the clarifier chamber, a fourth component that flows along the opposite side wall to the bottom, a fifth component that flows across the bottom under the opening to the clarifier chamber, and sixth and seventh components that flow in opposite directions adjacent the bottom wall of the vessel.

10. **(Thrice Amended)** An aerobic wastewater treatment plant comprising:

an aeration chamber into which the wastewater flows to be exposed to aerobic bacteria to aerobically digest the organic solids in the wastewater, said aeration chamber having a substantially flat, bottom wall and a substantially cylindrical side wall.

a clarifier chamber in which wastewater from the aeration chamber flows upwardly toward an outlet pipe through which the wastewater flows from the wastewater treatment plant, said clarifier chamber being defined by a partition in the form of an inverted, truncated cone into the bottom of which the wastewater flows from the aeration chamber, and

means for injecting an oxygenation gas and generating a wastewater current pattern in the aeration chamber, the current pattern having at least one first component flowing upwardly in a direction perpendicular to the bottom of the aeration chamber and [parallel to] adjacent the side wall of the aeration chamber, second and third components that flow in opposite directions around the partition which defines the clarifier chamber, a fourth component that flows downwardly along the opposite side wall to the bottom, a fifth component that flows across the bottom under the opening to the clarifier chamber, and sixth and seventh components that flow in opposite directions around the side wall of the aeration chamber adjacent the bottom of the chamber to keep solids from settling on the bottom of the aeration chamber.

17. (New) The wastewater treatment plant of claim 1 wherein said aeration system comprises multiple diffusers.

Cancel Claim 3, 18 and 19 without prejudice.

Please add the following new claims:

32. (New) The wastewater treatment plant of Claim 7 wherein said wastewater current pattern comprises an injection system for creating an injection area adjacent the intersection of said side wall and said bottom wall.

33. (New) The wastewater treatment plant of Claim 32 wherein said injection system comprises multiple diffusers.